INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/029541

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12N15/82 C12N9/04 A01H5/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C12N A01H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data, PAJ, EMBASE, Sequence Search, EMBL, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 03/031622 A (AGRICULTURE VICTORIA SERV PTY ; EMMERLING MICHAEL (AU); ONG ENG KOK (A) 17 April 2003 (2003-04-17) the whole document SEQ ID NO: 168 & 169	1-21
X	WO 02/101023 A (DU PONT ; ODELL JOAN T (US); YU XIAODAN (US)) 19 December 2002 (2002-12-19) the whole document SEQ ID NO: 11 & 12	1-10

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
20 December 2004	01 04 2005

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Bucka, A

Form PCT/ISA/210 (second sheet) (January 2004)

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International Application No
PCT/US2004/029541

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE EMBL [Online] 10 September 1999 (1999-09-10), "Glycine max dihydroflavonol-4-reductase DFR1 mRNA, complete cds." XP002311362 retrieved from EBI accession no. EM_PRO:AF167556 Database accession no. AF167556 the whole document	1,7-10, 14
Y	WO 96/36716 A (INT FLOWER DEV PTY LTD ; HOLTON TIMOTHY ALBERT (AU)) 21 November 1996 (1996-11-21) the whole document	1-21
Y	EP 1 182 257 A (KOREA KUMHO PETROCHEM CO LTD) 27 February 2002 (2002-02-27) the whole document	1-21
Y	TANAKA Y ET AL: "MOLECULAR CLONING AND CHARACTERIZATION OF ROSA HYBRIDA DIHYDROFLAVONOL 4-REDUCTASE GENE" PLANT AND CELL PHYSIOLOGY, JAPANESE SOCIETY OF PLANT PHYSIOLOGISTS, XX, vol. 36, no. 6, September 1995 (1995-09), pages 1023-1031, XP001079999 ISSN: 0032-0781 the whole document	1-21
A	MEYER P ET AL: "A NEW PETUNIA FLOWER COLOR GENERATED BY TRANSFORMATION OF A MUTANT WITH A MAIZE GENE" NATURE (LONDON), vol. 330, no. 6149, 1987, pages 677-678, XP002311408 ISSN: 0028-0836 the whole document	1-21
A	SPARVOLI F ET AL: "CLONING AND MOLECULAR ANALYSIS OF STRUCTURAL GENES INVOLVED IN FLAVONOID AND STILBENE BIOSYNTHESIS IN GRAPE (VITIS VINIFERA L.)" PLANT MOLECULAR BIOLOGY, NIJHOFF PUBLISHERS, DORDRECHT, NL, vol. 24, no. 5, 1994, pages 743-755, XP001161123 ISSN: 0167-4412 the whole document	1-21

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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-21 (partially)

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

Inventions 1 to 6: claims 1 to 21, all partially

an isolated polynucleotide encoding a polypeptide having dihydroflavonol-4-reductase activity, the polypeptide encoded by said polynucleotide, plants transformed with said polynucleotide, uses thereof,
wherein invention 1 is represented by SEQ ID NO: 3 & 4,
wherein invention 2 is represented by SEQ ID NO: 5 & 6,
wherein invention 3 is represented by SEQ ID NO: 7 & 8,
wherein invention 4 is represented by SEQ ID NO: 11 & 12,
wherein invention 5 is represented by SEQ ID NO: 13 & 14,
and
wherein invention 6 is represented by SEQ ID NO: 15 & 16

INTERNATIONAL SEARCH REPORT

International application No
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Patent document cited in search report		Publication date	Patent family member(s)		Publication date
WO 03031622	A	17-04-2003	WO	03031622 A1	17-04-2003
			CA	2461058 A1	17-04-2003
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			US	2002120954 A1	29-08-2002